

Work Order ID 119566***119566***

Page 1

Tuesday, February 10, 2015 7:39:34 AM

Item ID: D412-783-011

Accept

N900040100Setup Start ***NS1***

Revision ID:

Stop ***NS2***

Item Name: Gross Weight Towing Cable

Start Date: 5/12/2014 Start Qty: 4.00

4

Cust Item ID:

Required Date: 5/15/2014 Req'd Qty: 4.00

4

Customer:

Reference:

Approvals: Process Plan: MCS Date: 15-02-10 Tooling: _____ Date: _____Run Start ***NR1***

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

Draw Nbr	Revision Nbr
D3943	E
IIN-D412-783	C

DAS
27
9-09

100 Document Control 0.00

100

DC

Memo

0.00

Doc.Control -USB or Paperwork

Photocopy bluefile & type labels per PPPD412-783-011 CHG 004

FEB 11 2015 4 DAS 06 9-09 MCS 15-02-10

110 Pick Kit 0.00

110

Packaging

Memo

0.00

Packaging

4X DAS 27 9-09 FEB 11 2015 FEB 11 2015 DAS 46 9-09

Work Order ID 119566

Tuesday, February 10, 2015 7:39:34 AM

119566

Page 2

Item ID: D412-783-011 Accept ***N900040100*** Setup Start ***NS1***
Revision ID: Stop ***NS2***
Item Name: Gross Weight Towing Cable
Start Date: 5/12/2014 Start Qty: 4.00 ***4*** Cust Item ID:
Required Date: 5/15/2014 Req'd Qty: 4.00 ***4*** Customer:
Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
120	QC4- 100% Inspect kits for completeness	0.00							
120									
QC	Memo	0.00	FEB 11 2015		DAS 06 9-89	4			
Quality Control	***ENSURE CALIBRATION CERT. IS IN IIN PAPER WORK***								
130		0.00							
130									
Packaging	Memo	0.00							
Packaging	Identify and pack for shipping as per PPP D412-783-011		FEB 11 2015						
	Location: <u>F6121</u>								
	PPP Rev: _____								
140	QC21- Final Inspection - Work Order Release	0.00							
140									
QC	Memo	0.00							
Quality Control									

15/2/17 JF
JAS 2-13

Picklist Print

Tuesday, February 10, 2015 7:39:39 AM

Page 1

Work Order ID: 119566

119566

Parent Item: D412-783-011

D412-783-011

Parent Item Name: Gross Weight Towing Cable

Start Date: 5/12/2014

Required Date: 5/15/2014

Start Qty: 4.00

Required Qty: 4.00

Comments: IPP Rev:A New Issue 09-06-02 JLM Verified By:EC IPP Rev:B
@ chg 002 DD 10.02.22 Verified By:EC IPP Rev:C @ chg 004
DD 11.08.15 DD verf:JLM

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
4 D3943-041 *D3943-041* Ground Handlling Crank Assembly		Manufactured	No			110	Each	0.0000	1	4		DAS 27 9-89 FEB 11 2015	DAS 46 9-89
4 D3951-041 *D3951-041* Equipment Bag Assembly		Manufactured	No			110	Each	18.0000	1	4		DAS 27 9-89 FEB 11 2015	DAS 46 9-89
				<u>Location</u>				<u>Loc Qty</u>		<u>Loc Code</u>			
				ST431				18					
				114366				4					
				120500				14					
4 D3954-1 *D3954-1* Gwt Pin		Manufactured	No			110	Each	34.0000	2	8		DAS 27 9-89 FEB 11 2015	DAS 46 9-89
				<u>Location</u>				<u>Loc Qty</u>		<u>Loc Code</u>			
				ST070				34					
				102473				33					
				70030				1					
4 D3954-3 *D3954-3* Gwt Knob		Manufactured	No			110	Each	14.0000	2	8		DAS 27 9-89 FEB 11 2015	DAS 46 9-89
				<u>Location</u>				<u>Loc Qty</u>		<u>Loc Code</u>			
				ST070				14					
				108409				5					
				119384				9					

ITEM No.	QTY -041	QTY -051	QTY -053	PART NUMBER	DESCRIPTION	PREFERRED SUPPLIER
1	X			D3943-041	GROUND HANDLING CRANK ASSEMBLY	
5	1	X		D3943-051	HANDLE ASSEMBLY	
6	1		X	D3943-053	CHAIN ASSEMBLY	
11		1		D3943-1	HANDLE	M/F HANDLE FROM DIS-ASSEMBLED ITEM 39
12	1			D3943-3	HANDLE EXTENSION	
13		1		D3943-5	PLATE	
14		2		D3943-7	STUD	
15			1	D3943-9	CHAIN	USE CHAIN SUPPLIED WITH ITEM 39
16			1	D4405-1	EYE AND FORK SWIVEL	
21	1			D2690-4	LANYARD	
22	1			D3585-1	SET SCREW	
23	1			D3949-041	REMOVE BEFORE FLIGHT FLAG	
24			1	D3954-5	CHAIN LUG	
25	1			D3954-7	RATCHET LUG	
26			1	D3954-9	GWT CHAIN PIN	
31	1			AN5-11A	BOLT	
32	1			AN960-516	WASHER	
33	1			MS21042L5	NUT	
39	1			8143919	LEVER CHAIN HOIST (POWER FIST)	PRINCESS AUTO / 4000 lbs CAPACITY
51	1			S-1475	SPRING	REID SUPPLY
52	1			3408A59	BALL PLUNGER	McMASTER CARR
53	1			HX-15	SOCKET HEAD CAP SCREW 1/4-20 UNC X 0.75 LG	HASKINS
54	1			HX-16	SOCKET HEAD CAP SCREW 1/4-20 UNC X 1.0 LG	HASKINS

SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT

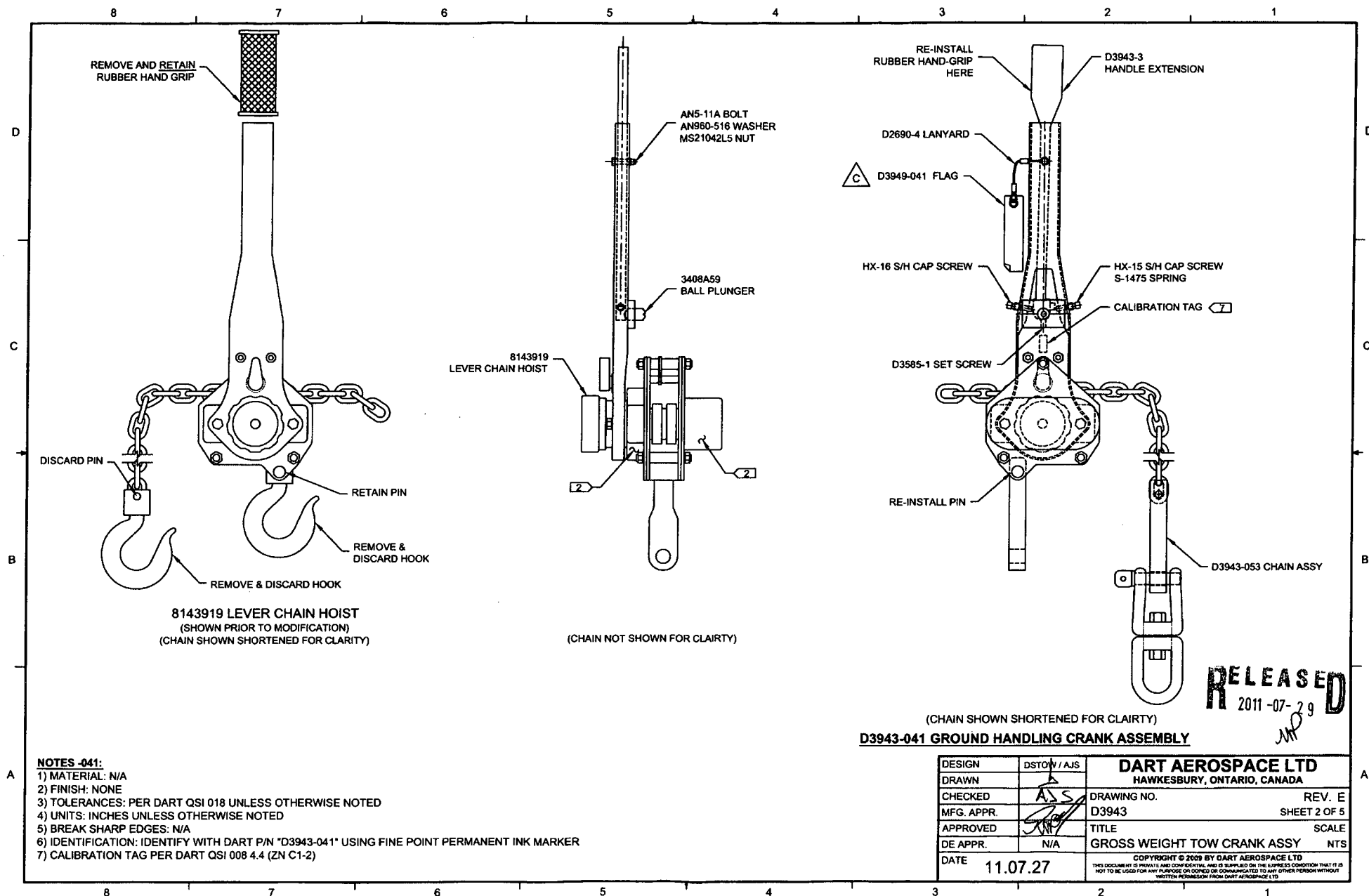
WITHOUT NOTICE
WORK ORDER

NO. 119566 MJS

14-05-23

RELEASED
2011-07-29

E	CHANGED D3945-3 MAT'L TO SS (B8-5); FINISH NOW "NONE" (A7-5); TAP DRILL FOR 1/4-20 UNF-2B WAS PILOT HOLE NOTE (B1-5). PER PAR11-113.	MB	11.07.27
D	SHT 1 PL, ITEMS 51-54 RENUMBERED SEE PREV. REV. FOR DETAILS, ITEM 16 ADDED (VIEWS UPDATED). SHT 2 ZN D3 FLAG RELOCATED. SHT 3 ZONE D3, Ø0.12 HOLE DELETED. (SEE NCR 11-495)	AJS	11.05.16
C	RMV FINISH -041 (ZN A8-2), ADD NEW FINISH -051/-053/-1/-3 (A8-3/-4/-5), ADD CALIBRATION (A8-2), (1) HX-16 WAS HX-15 (B3-1, C3-1), PAR 10-001	CP	10.01.26
B	SHT 1 PL, ITEM 31 WAS AN4-10A, ITEM 32 WAS AN960-416, ITEM 33 WAS MS21042-4, ITEM 43 WAS 0.75 LG. SHEETS 2 - 5 NOTES: FINISH FOR ALL COMPONENTS NOW YELLOW SPRAY PAINT.	AJS	09.10.15
A	NEW ISSUE	AJS	09.05.13
REV.	DESCRIPTION	BY	DATE
DESIGN	DSTON / AJS	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN		DRAWING NO.	REV. E
CHECKED	AJS	D3943	SHEET 1 OF 5
MFG. APPR.		TITLE	SCALE
APPROVED		GROSS WEIGHT TOW CRANK ASSY	NTS
DE APPR.	N/A	COPYRIGHT © 2009 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD	
DATE	11.07.27		



8 7 6 5 4 3 2 1

D3943-1 HANDLE

2 PL

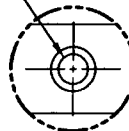
9.75

2.00

Ø0.31
THRU

D3943-7 STUD
2 PL

THREAD 1/20 UNC-2B
THRU



VIEW A-A
A5-3
(SCALE 2X) BS-3

9.38
REF

2 PL

A B1-3

A B1-3

D3943-5 PLATE

D3943-051 HANDLE ASSEMBLY

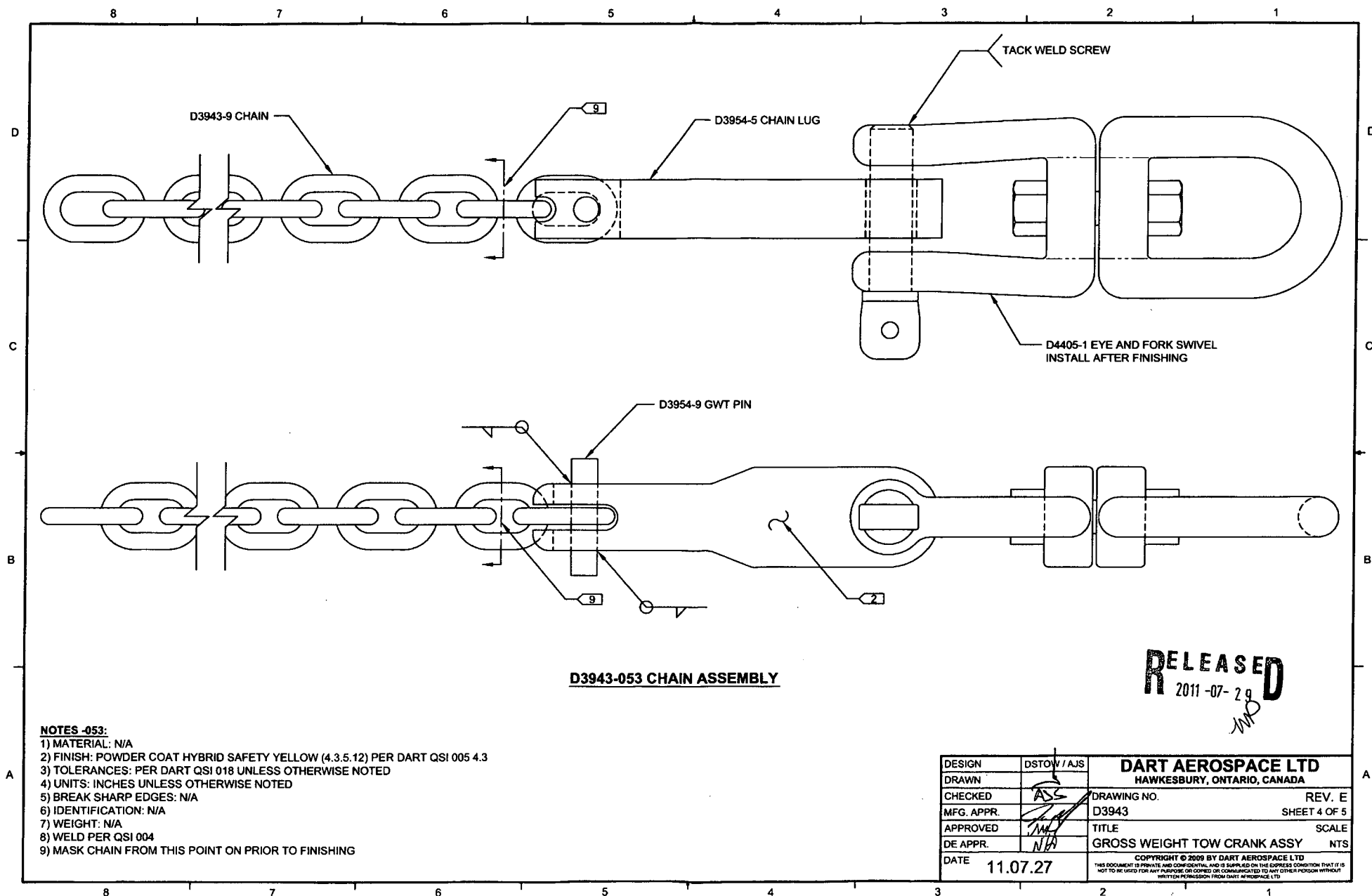
NOTES -051:

- 1) MATERIAL : N/A
- 2) FINISH: POWDER COAT HYBRID SAFETY YELLOW (4.3.5.12) PER DART QSI 005 4.3
- 3) TOLERANCES: X.XX DIMENSIONS +/- 0.06 ALL OTHERS
PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: N/A
- 6) IDENTIFICATION: N/A
- 7) MASK ALL THREADS PRIOR TO FINISHING

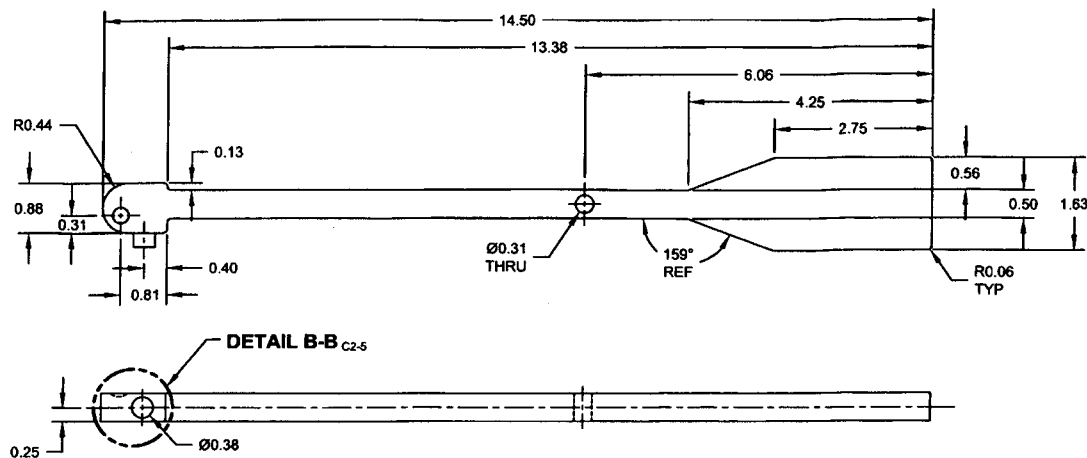
DESIGN	DSTOW / AJS	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN		DRAWING NO.	REV. E
CHECKED	ASS	D3943	SHEET 3 OF 5
MFG. APPR.		TITLE	SCALE
APPROVED		GROSS WEIGHT TOW CRANK ASSY	NTS
DE APPR.	N/A	COPYRIGHT © 2009 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD	
DATE	11.07.27		

RELEASED
2011-07-29

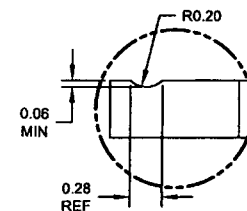
8 7 6 5 4 3 2 1



8 7 6 5 4 3 2 1



D3943-3 HANDLE EXTENSION



DETAIL B-B C7-5
(DIMPLE DETAIL)
(SCALE 2X)

NOTES:

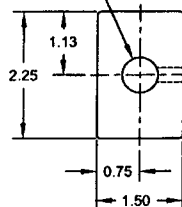
1) MATERIAL -3: AISI 304/316 STAINLESS STEEL SHEET
ANNEALED 2B FINISH PER MIL-S-5059
OR AMS 5513 (304) OR AMS 5524 (316)
OR ASTM A240 OR ASME SA240
REF DART SPEC M304S
OR:
AISI 303 STAINLESS STEEL SHEET
ANNEALED 2B FINISH PER MIL-S-5059
ASTM A240 OR ASME SA240
REF DART SPEC M303S

-5: MILD STEEL, SHEET
AISI 1010-1025 OR ASTM A36/A366/A1008
OR CSA G40-21, 38W/44W/50W/60W/70W
REF DART SPEC M1010-S
OR:
MILD STEEL, BAR
AISI 1010-1025 OR ASTM A36/A366/A569/A570
OR CSA G40-21, 38W/44W/50W/60W/70W
REF DART SPEC M1010-B

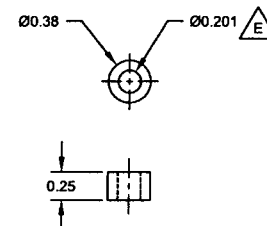
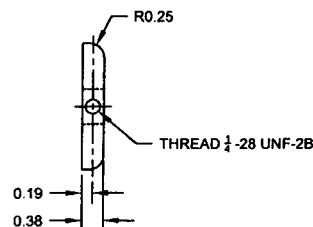
-7: MILD STEEL, ROUND BAR
AISI 1018-1025
PER MIL-S-7097
REF DART SPEC M1018-R

2) FINISH: NONE
3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
4) UNITS: INCHES UNLESS OTHERWISE NOTED
5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
6) IDENTIFICATION: N/A

THREAD $\frac{1}{8}$ -11 UNC-2B



D3943-5 PLATE



D3943-7 STUD
(SCALE 2X)

RELEASED
2011-07-28

DESIGN	DSTOW / AJS	DART AEROSPACE LTD	
DRAWN		HAWKESBURY, ONTARIO, CANADA	
CHECKED	ASS	DRAWING NO.	REV. E
MFG. APPR.		D3943	SHEET 5 OF 5
APPROVED		TITLE	SCALE
DE APPR.	N/A	GROSS WEIGHT TOW CRANK ASSY	NTS
DATE	11.07.27	COPYRIGHT © 2009 BY DART AEROSPACE LTD	
THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.			

8 7 6 5 4 3 2 1

DAS
06
2-29

4.0 CALIBRATION

4.1 Calibration of the D3943-041 Tow Crank Assembly

- 4.1.1 The chain ratchet handle on the D3943-041 Tow Crank Assembly must be calibrated annually to ensure the handle indicates "clicks" when a 3500 lbs – 4000 lbs load has been achieved. To calibrate loosen setscrew that locks the threaded stainless steel ball plunger (Refer to figure 2 for details). Place a load cell inline and ratchet until the 3500 lbs – 4000 lbs has been reached. If the handle clicks before the 3500lbs load then turn plunger clockwise 1/8 turn, remove load and retry. If handle does not click between the 3500lbs and 4000 lbs load, turn plunger 1/8 turn counterclockwise, remove load and retry. Once the handle has been properly set retighten setscrew and test once more.
- 4.1.2 The Tow Crank Assembly may be returned to DART for calibration, at the operator's expense.

5.0 PARTS LIST

QTY -011	PART NUMBER	DESCRIPTION
X	D412-783-011	GROSS WEIGHT TOWING KIT
1	D3943-041	TOW CRANK ASSEMBLY
1	D3951-041	EQUIPMENT BAG
2	D3954-1	GWT PIN
2	D3954-3	GWT KNOB